IN THE CLAIMS:

Please amend claims 1, 7, 13 and 14 as shown below.

Claim 1 (Currently Amended): A method for generating a desired output waveform associated with the ~~determining frequency values associated with forces applied to a~~ device, comprising:

determining a first plurality of spectral amplitude values associated with a first forcing waveform applied to the device;

determining a second plurality of spectral amplitude values associated with a second forcing waveform applied to the device;

determining a maximum spectral amplitude value based on the first and second plurality of spectral amplitude values;

determining a threshold amplitude value based on the maximum spectral amplitude value and an acceptance value;

determining a first plurality of desired frequency values by selecting frequency values associated with a subset of the first plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value; ~~and,~~

determining a second plurality of desired frequency values by selecting frequency values associated with a subset of the second plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value; and

generating the desired output waveform associated with the device ~~solving a dynamic model of the device~~ utilizing a subset of the first plurality of spectral amplitude values associated with the first plurality of desired frequency values, and a subset of the second plurality of spectral amplitude values associated with the second plurality of desired frequency values, and a dynamic model of the device, such that a computational time for generating the desired output waveform is reduced as compared to utilizing an entire frequency domain spectrum associated with the first and second forcing waveforms and the dynamic model ~~to generate a desired output waveform associated with the device~~.

Claim 2 (Original): The method of claim 1 wherein the step of determining the first plurality of spectral amplitude values includes:

determining a first forcing waveform indicative of a force applied to the device over an integral number of rotations of the device;

removing a DC component of the first forcing waveform to obtain a first modified forcing waveform; and,

calculating the first plurality of spectral amplitude values associated with the first modified forcing waveform.

Claim 3 (Original): The method of claim 2 wherein the step of calculating the first plurality of spectral amplitude values includes applying a Fourier transform on the first modified forcing waveform to obtain the first plurality of spectral amplitude values.

Claim 4 (Original): The method of claim 2 wherein the first forcing waveform is determined from data collected over an integral number of revolutions of the device.

Claim 5 (Original): The method of claim 1 wherein the step of determining the maximum spectral amplitude value includes:

determining a first maximum value by determining a highest value in the first plurality of spectral amplitude values;

determining a second maximum value by determining a highest value in the second plurality of spectral amplitude values; and,

selecting the greater value of the first maximum value and the second maximum value to obtain the maximum spectral amplitude value.

Claim 6 (Original): The method of claim 1 wherein the step of determining the threshold amplitude value includes multiplying the maximum spectral amplitude value by the acceptance value to obtain the threshold amplitude value.

Claim 7 (Currently Amended): An article of manufacture, comprising:

a computer storage medium having a computer program encoded therein for generating a desired output waveform associated with the ~~determining frequency values associated with forces applied to a~~ device, the computer storage medium including

code for determining a first plurality of spectral amplitude values associated with a first forcing waveform applied to the device;

code for determining a second plurality of spectral amplitude values associated with a second forcing waveform applied to the device;

code for determining a maximum spectral amplitude value based on the first and second plurality of spectral amplitude values;

code for determining a threshold amplitude value based on the maximum spectral amplitude value and an acceptance value;

code for determining a first plurality of desired frequency values by selecting frequency values associated with a subset of the first plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value; and,

code for determining a second plurality of desired frequency values by selecting frequency values associated with a subset of the second plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value; and

code for generating the desired output waveform associated with the device ~~solving a dynamic model of the device~~ utilizing a subset of the first plurality of spectral amplitude values associated with the first plurality of desired frequency values, and a subset of the second plurality of spectral amplitude values associated with the second plurality of desired frequency values, and a dynamic model of the device, such that a computational time for generating the desired output waveform is reduced as compared to utilizing an entire frequency domain spectrum associated with the first and second forcing waveforms and the dynamic model ~~to generate a desired output waveform associated with the device~~.

Claim 8 (Original): The article of manufacture of claim 7 wherein the code for determining the first plurality of spectral amplitude values includes:

code for determining a first forcing waveform indicative of a force applied to the device over an integral number of rotations of the device;

code for removing a DC component of the first forcing waveform to obtain a first modified forcing waveform; and,

code for calculating the first plurality of spectral amplitude values associated with the first modified forcing waveform.

Claim 9 (Original): The article of manufacture of claim 7 wherein the code for calculating the first plurality of spectral amplitude values includes:

code for applying a Fourier transform on the first modified forcing waveform to obtain the first plurality of spectral amplitude values.

Claim 10 (Original): The article of manufacture of claim 7 wherein the first forcing waveform is determined from data collected over an integral number of revolutions of the device.

Claim 11 (Original): The article of manufacture of claim 7 wherein the code for determining the maximum spectral amplitude value includes:

code for determining a first maximum value by determining a highest value in the first plurality of spectral amplitude values;

code for determining a second maximum value by determining a highest value in the second plurality of spectral amplitude values; and,

code for selecting the greater value of the first maximum value and the second maximum value to obtain the maximum spectral amplitude value.

Claim 12 (Original): The article of manufacture of claim 7 wherein the code for determining the threshold amplitude value includes code for multiplying the maximum spectral amplitude value by the acceptance value to obtain the threshold amplitude value.

Claim 13 (Currently Amended): A system for generating a desired output waveform associated with the ~~determining frequency values associated with forces applied to a~~ device, comprising:

a first sensor operably coupled to the device, the first sensor generating a first signal over time indicative of a first forcing waveform applied to the device;

a second sensor operably coupled to the device, the second sensor generating a second signal over time indicative of a second forcing waveform applied to the device; and,

a computer operably communicating with the first and second sensors, the computer configured to determine a first plurality of spectral amplitude values associated with the first forcing waveform, the computer is further configured to determine a second plurality of spectral amplitude values associated with the second forcing waveform, the computer is further configured to determine a maximum spectral amplitude value based on the first and second plurality of spectral amplitude values, the computer is further configured to determine a threshold amplitude value based on the maximum spectral amplitude value and an acceptance value, the computer is further configured to determine a first plurality of desired frequency values by selecting frequency values associated with a subset of the first plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value, the computer is further configured to determine a second plurality of desired frequency values by selecting frequency values associated with a subset of the second plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value, the computer is further configured to generate the desired output waveform associated with ~~solve a dynamic model of~~ the device utilizing a subset of the first plurality of spectral amplitude values associated with the first plurality of desired frequency values, and a subset of the second plurality of spectral amplitude values associated with the second plurality of desired frequency values, and a dynamic model of the device, such that a computational time for generating the desired output waveform is reduced as compared to utilizing an entire frequency domain spectrum associated with the first and second forcing waveforms and the dynamic model ~~to generate a desired output waveform associated with the device~~.

Claim 14 (Currently Amended): A system for generating a desired output waveform associated with the ~~determining frequency values associated with forces applied to a~~ device, comprising:

a first sensor means operably coupled to the device for generating a first signal over time indicative of a first forcing waveform applied to the device;

a second sensor means operably coupled to the device for generating a second signal over time indicative of a second forcing waveform applied to the device; and,

a computer means for operably communicating with the first and second sensors, the computer means configured to determine a first plurality of spectral amplitude values associated with the first forcing waveform, the computer means is further configured to determine a second plurality of spectral amplitude values associated with the second forcing waveform, the computer means is further configured to determine a maximum spectral amplitude value based on the first and second plurality of spectral amplitude values, the computer means is further configured to determine a threshold amplitude value based on the maximum spectral amplitude value and an acceptance value, the computer means is further configured to determine a first plurality of desired frequency values by selecting frequency values associated with a subset of the first plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value, the computer means is further configured to determine a second plurality of desired frequency values by selecting frequency values associated with a subset of the second plurality of spectral amplitude values that are greater than or equal to the threshold amplitude value, the computer means is further configured to generate the desired output waveform associated with ~~solve a dynamic model of~~ the device utilizing a subset of the first plurality of spectral amplitude values associated with the first plurality of desired frequency values, and a subset of the second plurality of spectral amplitude values associated with the second plurality of desired frequency values, and a dynamic model of the device, such that a computational time for generating the desired output waveform is reduced as compared to utilizing an entire frequency domain spectrum associated with the first and second forcing waveforms and the dynamic model ~~to generate a desired output waveform associated with the device~~.